

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte KOICHIRO KISHIMA

Appeal No. 2005-0873  
Application 10/067,347

HEARD: May 18, 2005

MAILED

SEP 13 2005

PAT. & T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Before PATE, MCQUADE, and BAHR, Administrative Patent Judges.

PATE, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 50 through 79. These are the only claims remaining in the application.

The appealed claims relate to an optical coupling device which comprises an optical lens placed between a light emitting device and an optical fiber. The manufacture of the optical coupling device is illustrated in figures 3a through 3d. The lens substrate 10 of optical material is coated with a mask layer MS. The mask layer is composed of photoresist. The mask layer is photographically exposed and then subjected to a heat-treatment which leaves a plurality of mask layer portions having curved surfaces as shown in figure 3c. When the structure in figure 3c is etched, an optical lens array having a plurality of convex portions 11a through 11d is created, as shown in figure 3d.

The claimed subject matter may be further understood with reference to the appealed claims appended to appellant's brief.<sup>1</sup>

The references of record relied upon by the examiner as evidence of anticipation and obviousness are:

Knapp et al. (Knapp) 5,768,456 Jun. 16, 1998  
Althaus et al. (Althaus) 6,434,297 B1 Aug. 13, 2002

Grounds of Rejection

Claims 50 through 64 stand rejected under 35 U.S.C. § 102(e) as anticipated by Althaus.

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<sup>1</sup> We note that an amendment entered after final rejection corrects a typographical error in claim 65.

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Claims 65 through 79 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Althaus in view of Knapp.

OPINION

We have carefully considered the rejections on appeal in light of the arguments of the appellant and the examiner. As a result of this review, we have reached the conclusion that the claims on appeal do not lack novelty over the Althaus reference and are not obvious over Althaus in view of Knapp. Our reasons follow.

The first issue to consider is the construction of claims 50 and 79, the independent claims on appeal. Taking claim 50 as our example, we note that the first clause after the preamble calls for a lens substrate having a plurality of convex portions extending therefrom. We note that the next clause calls for the substrate having a mask layer thereon. As we noted to counsel at oral hearing, the plurality of convex portions are not fully formed until the mask layer is entirely consumed in the etching process. Therefore, there would not seem to be any point in time where the substrate had a plurality of convex portions and still had mask layer deposited thereon. According to the appellant's counsel at oral hearing, the independent claims should be understood as directed to an intermediate product having nascent, not fully formed, convex portions that are still covered by some

mask material. Accordingly, in our decision, we construe the claims on appeal as directed to a intermediate product with partially formed convex portions having some mask layer remaining thereon.

Turning to the rejection of claim 50, the following are our findings of fact with respect to the Althaus reference. Althaus discloses making an optical coupling device out of a silicon semiconductor wafer 10. A plurality of convex portions 11 are produced on substrate 10. Afterwards, a mask layer 13 of metal is placed on the substrate having the convex portions. Sections of the metal layer 13 are removed leaving perforated diaphragms 4 of metal on the convex portions 11. See Althaus, Figure 3.

In our view, Althaus does not disclose that the height of the convex portions 11 is specified on the basis of a thickness of a mask layer. Althaus merely discloses annular diaphragm mask 4 to project out of the convex portions. We are in agreement with appellant that the height of the convex portions is not specified on the basis of the thickness of the mask layer 13. We acknowledge the examiner's argument that the thickness of the mask layer specifies the height of the convex portion because the mask layer is deposited directly on top of the convex portion. The mask layer demarcates the height of the convex portion. We merely note that the examiner in stating the argument

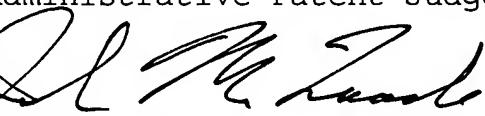
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specifically states that the mask layer is deposited on top of the convex portion. Therefore, by his own admission, the examiner has recognized that the mask layer is independent of the height of the convex portion since it is placed on top thereof.

We have further considered the Knapp reference but we do not find therein any disclosure which would ameliorate the shortcomings of the Althaus reference. Accordingly, we reverse the rejections of all claims on appeal.

REVERSED

  
WILLIAM F. PATE III )  
Administrative Patent Judge )

  
JOHN P. MCQUADE )  
Administrative Patent Judge )

  
JENNIFER D. BAHR )  
Administrative Patent Judge )

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